

ASTM B674 / ASME SB674

Standard Specification for UNS N08925, UNS N08354, and UNS N08926 Welded Tube

This specification covers UNS N08925, UNS N08354, and UNS N08926 welded tube for general corrosion applications.

The tube sizes covered by this specification are 1/8 to 5 in. (3.2 to 127 mm) in outside diameter and 0.015 to 0.320 in. (0.38 to 8.13 mm), inclusive, in wall thickness.

A. Heat Treatment :-

1. The material shall be cold-worked in either the weld metal only or both weld and base metal.
2. The recommended heat treatment shall consist of heating to a temperature of 1975 to 2150°F (1080 to 1180°C) for UNS N08354 or 2010 to 2100°F (1100 to 1150°C) for UNS N08925 and UNS N08926, followed by quenching in water or rapid cooling by other means.

B. Chemical Composition :-

The material shall conform to the composition limits specified in Table 1.

Table 1

Element	UNS N08925	UNS N08354	UNS N08926
Carbon, max	0.02	0.03	0.02
Manganese, max	1.0	1.0	2.0
Phosphorus, max	0.045	0.03	0.03
Sulfur, max	0.03	0.01	0.01
Silicon, max	0.5	1.0	0.5
Nickel	24.0-26.0	34.0-36.0	24.00-26.00
Chromium	19.0-21.0	22.0-24.0	19.00-21.00
Molybdenum	6.0-7.0	7.0-8.0	6.0-7.0
Copper	0.8-1.5	...	0.5-1.5
Nitrogen	0.1-0.2	0.17-0.24	0.15-0.25
Iron	balance	Balance	balance

C. Mechanical and Other Properties :-

1. Mechanical Properties— The material shall conform to the mechanical property requirements specified in Table 2.

Table 2

Alloy	Temper	Tensile Strength, min, psi (Mpa)	Yield Strength, 0.2% offset, min, psi (Mpa)	Elongation in 2 in. or 50 mm, (or 4D) , min, %
UNS N08925	solution annealed	87 (600)	43 (295)	40
UNS N08354	solution annealed	93 (640)	43 (295)	40
UNS N08926	solution annealed	94 (650)	43 (295)	35

2. Flattening Test.
3. Flange Test.
4. Nondestructive Test Requirements:
 - i. Class 1—Each piece in each lot shall be subject to one of the following four tests: hydrostatic, pneumatic (air underwater), eddy current, or ultrasonic.
 - ii. Class 2—Each piece in each lot shall be subjected to a leak test and an electric test as follows:
 - a. Leak Test—Hydrostatic or pneumatic (air underwater).
 - b. Electric Test—Eddy current or ultrasonic.

D. General Requirements :-

1. Material furnished under this specification shall conform to the applicable requirements of the current edition of Specification SB-751 unless otherwise provided herein.

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